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MODULE HANDBOOK

Module designation	*Complex Function*
Semester(s) in which the module is taught	*4*
Person responsible for the module	*Dr. Dipo Aldila*
Language	*Indonesian*
Relation to curriculum	*Compulsory*
Teaching methods	*Lecture, seminar.*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload: 9 hours/week x 14 weeks + 5.5 hours/week x 2 weeks = 137 hours.* *9 hours/week divided into :* - *Contact hours: 3 hours (150 minutes lectures).* - *Study independent including examination preparation, specified in hours[1]: 3 hours structured activities and 3 hours individual study per week.*
Credit points	*3 SKS*
Required and recommended prerequisites for joining the module	*Calculus-3*
Module objectives/intended learning outcomes	*After completing the course, students have the ability* 1. *to proof the identities related to complex number* 2. *to proof limit, continuity, and derivation of complex function* 3. *to identify characteristic of an analytic function* 4. *to integrate a simple complex function* 5. *to find a relation a concept of sequences, series, residue, and pole to calculate an integration of a complex function* 6. *to use residue and pole to calculate a more complicated integration of a complex function* 7. *to draw a mapping of a complex function.*

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Content	1. *Complex number* 2. *Function, limit, and theorems on limit of complex function* 3. *Analytic function* 4. *Integral of complex function* 5. *Series of a complex function* 6. *Residue and pole* 7. *Mapping of a complex function*
Examination forms	1. *Class activities : Quiz, homework.* 2. *Mid-term examination* 3. *Final examination*
Study and examination requirements	*The final mark will be weighted as follows:* 1. *Quiz (25%)* 2. *Homework (15%).* 3. *Mid-term examination (30%)* 4. *Final examinations (30%)* *To succesfully pass the module it requires minimum 55% of the total mark.* *Mark — Grade* *85—100 — A* *80—<85 — A-* *75—<80 — B+* *70—<75 — B* *65—<70 — B-* *60—<65 — C+* *55—<60 — C* *40—<55 — D* *<40 — E*
Reading list	*J.W.Brown dan R.V.Churchill. 2014. Complex variables and applications, 9th edition. Mc. Graw Hill Education.*